

In the Claims:

Please cancel claim 2 and amend claims 1, 6 and 10 as follows:

1. (Currently Amended) A method for preparing particles of a platinum metal element on a carbon substrate that comprises the steps of:

(a) contacting a carbon substrate carbon substrate having a surface area of about 100 to about 2500 m²/g with an aqueous solution of a dissolved platinum metal element complex present at a pH value of about 2 to about 4 where said platinum metal element is present as an anionic complex and at a pH value of about 10.5 to about 13 where said platinum metal element is present as a cationic complex, whereby ~~use of a said~~ carbon substrate ~~having has~~ a higher PZC value at said low pH values or ~~a said~~ carbon substrate ~~having has~~ a lower PZC at said high pH values provides greater adsorption of said platinum metal element complex than the reverse usage;

(b) maintaining said contact at said pH value for a time period sufficient for said platinum metal element complex to adsorb onto said substrate to form a platinum metal complex-loaded substrate;

(c) heating said platinum metal complex-loaded substrate under reducing conditions to form particles of a platinum metal element on said carbon substrate.

2. (Cancelled).

3. (Original) The method according to claim 1 wherein said platinum metal complex-loaded substrate is heated at a temperature of about 200.degree. to about 300.degree. C.

4. (Original) The method according to claim 1 wherein said anionic complex is a halo or halohydroxoquo complex.

5. (Original) The method according to claim 1 wherein said cationic complex comprises one or more nitrogen atoms contained in a monodentate, bidentate or tridentate ligand.

6. (Currently Amended) A method for preparing particles of a platinum metal element on a carbon substrate that comprises the steps of:

(a) contacting a carbon substrate having a surface area of about 100 to about 2500 m.²/g with an aqueous solution of a dissolved platinum metal element complex present at a pH value of about 2 to about 4 where said platinum metal element is present as an anionic complex, whereby ~~use of a~~said carbon

substrate ~~having~~ has a higher PZC value at said pH values provides greater adsorption of said platinum metal element complex than does use of a substrate having a lower PZC value;

(b) maintaining said contact at said pH value for a time period sufficient for said platinum metal element complex to adsorb onto said substrate to form a platinum metal complex-loaded substrate;

(c) heating said platinum metal complex-loaded substrate under reducing conditions at a temperature of about 200.degree. to about 300.degree. C. to form particles of a platinum metal element on said carbon substrate.

7. (Original) The method according to claim 6 wherein said anionic complex is a halo or halohydroxoquo complex.

8. (Original) The method according to claim 7 wherein said halo or haloquo complex is a chloro or chlorohydroxoquo complex.

9. (Original) The method according to claim 8 wherein said chloro or chlorohydroxoquo complex is selected from the group consisting of PtCl.sub.4.sup.2-, PtCl.sub.6.sup.2-, PtCl.sub.5.sup.2-, PdCl.sub.4.sup.2-, [RhCl.sub.4(H.sub.2O).sub.2].sup.-, [RhCl.sub.5(H.sub.2O)].sup.2-,

[IrCl.sub.5(H.sub.2O)].sup.-, RhCl.sub.6.sup.3-, IrCl.sub.6.sup.3-,
OsCl.sub.6.sup.2- and [RuCl.sub.4(H.sub.2O).sub.2].sup.-.

10. (Currently Amended) A method for preparing particles of a platinum metal element on a carbon substrate that comprises the steps of:

(a) contacting a carbon substrate having a surface area of about 100 to about 2500 m.sup.2/g with an aqueous solution of a dissolved platinum metal element complex present as a cationic complex at a pH value of about 10.5 to about 13, whereby ~~use of a said~~ carbon substrate ~~having~~ has a lower PZC at said pH value provides greater adsorption of said platinum metal element complex than does use of a substrate having a higher PZC;

(b) maintaining said contact at said pH value for a time period sufficient for said platinum metal element complex to adsorb onto said substrate to form a platinum metal complex-loaded substrate;

(c) heating said platinum metal complex-loaded substrate under reducing conditions at a temperature of about 200 degrees to about 300 degrees C. to form particles of a platinum metal element on said carbon substrate.

11. (Original) The method according to claim 10 wherein said cationic complexes includes one or more nitrogen atoms contained in a

monodentate, bidentate or tridentate ligand, or said one or more nitrogen atoms and water from an amminoaquo complex.

12. (Original) The method according to claim 11 wherein said cationic complex containing a monodentate, bidentate or tridentate ligand is an ammine, pyridine, ethylenediamine, 1,3-propanediamine, 1,10-phenanthroline, 2,2'-bipyridine or diethylenetriamine ligand.

13. (Original) The method according to claim 12 wherein said ammine-containing cationic complex is selected from the group consisting of $\text{Ru}(\text{NH}_3)_5(\text{H}_2\text{O})^{2+}$, $[\text{Ru}(\text{NH}_3)_5(\text{H}_2\text{O})]^{3+}$, $[\text{Ru}(\text{bipy})_3]^{2+}$, $[\text{Os}(\text{bipy})_3]^{2+}$, $\text{Rh}(\text{NH}_3)_6^{3+}$, $\text{Ir}(\text{NH}_3)_6^{3+}$, $\text{Pd}(\text{NH}_3)_4^{2+}$, $\text{Pt}(\text{en})^{2+}$, $\text{Pd}(\text{py})_2^{2+}$, and $[\text{Pt}(\text{en})_2]^{2+}$.